

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 38

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KAZUHIRO MATSUI
and HIROJI KITAGAWA

Appeal No. 1997-2426
Application 08/087,849¹

ON BRIEF

Before HAIRSTON, JERRY SMITH and FLEMING, *Administrative Patent Judges*.

FLEMING, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 38 through 50. Claims 4 through 11 have been withdrawn from consideration as subject to a restriction requirement. Claims 1 through 3

¹ Application for patent filed July 2, 1993. According to Appellants, this application is a continuation of Application 07/799,019, filed November 25, 1991, which is a continuation of Application 07/527,005, filed May 22, 1990.

and 12 through 37 have been canceled.

This invention relates to a noise absorber for absorbing and reflecting electrical noise transmitted along an electrical cable. In particular, the Appellants disclose on pages 7 through 10 of the specification and illustrated in figure 6A, a case member 105 with a pair of ferrite pieces 103. The case member 105 has a fixing hole 105j for fixing a spring member 107 to case member 105. While the case 105 is in a closed state, spring member 107 is deflected with the resilience applied to the ferrite pieces 103 forming a closed loop. The ferrite pieces are kept in close contact with each other. Case 105 is closed such that the cable 109 is between the ferrite pieces 103.

This invention further relates to spreading a magnetic fluid 224 on both abutting planes of the ferrite pieces 103 (or 203). The Appellants disclose on page 11 of the specification that the magnetic fluid 224 is a stable colloidal solution in which ferromagnetic grains are dispersed in a non-magnetic solution such as water and light oil. The magnetic fluid paves the rough abutting planes of the ferrite pieces.

The independent claims 38, 44 and 50 are reproduced as follows:

38. An electric noise absorber for attenuating electric noise on an electric cable, said noise absorber comprising:

two bodies of magnetic material, each magnetic body having abutment surfaces which contact the abutment surfaces of the other magnetic body to form a magnetic circuit, each of the magnetic bodies having a notch located at one end of the magnetic body;

two case members which are relatively movable into a closed position, each of the case

members including a bottom wall portion and side wall portions extending from the bottom wall portion to define an interior space of the case member;

each of the case members receiving a magnetic body in the interior space of the case member, each of the case members including a positioner for extending into the notch of the respective magnetic body when the magnetic body is received in the interior space of the case member, each of the magnetic bodies being movable in its respective case member and being prevented from moving out of the interior space of the case member when the positioner of the case member extends into the notch of the magnetic body; and

a single leaf spring member acting between the bottom wall portion of one of the case members and the magnetic body in the interior space of the one case member and for (i) pressing the abutment surfaces of the magnetic body in the interior space of the one case member into contact with the abutment surfaces of the other magnetic body and (ii) pressing the other magnetic body into contact with the bottom wall portion of the other case member when the case members are closed and the magnetic bodies extend around an electric cable to form a magnetic circuit to absorb electric noise on an electric cable, said single leaf member being separate from the magnetic bodies and the case members and being the only spring member associated with said electric noise absorber, said single leaf member being located in the interior space of the one case member and having a first portion abutting against the bottom wall portion of the one case member and a second portion abutting against the magnetic body in the interior space of the one case member.

44. An electric noise absorber for attenuating electric noise on an electric cable, said noise absorber comprising:

two bodies of magnetic material, each magnetic body having abutment surfaces which contact the abutment surfaces of the other magnetic body to form a magnetic circuit, each of the magnetic bodies having a notch located at one end of the magnetic body;

two case members which are relatively movable into a closed position, each of the case members including a bottom wall portion and first and second end wall portions extending from the bottom wall portion, the first and second end wall portions being located opposite from each other, the first end wall portion of one case member having a notched opening which cooperates with the corresponding notched opening of the first end wall portion of the other case member to form a first opening through which an electric cable extends when the case members are closed, the second end wall portion of one case member having a notched opening which cooperates with the corresponding

notched opening of the second end wall portion of the other case member to form a second opening through which an electric cable extends when the case members are closed;

each of the case members receiving a magnetic body, each of the case member including a positioner for extending into the notch of the respective magnetic body when the magnetic body is received in the case member, each of the magnetic bodies being movable in its respective case member and being prevented from moving out of the case member when the positioner of the case member extends into the notch of the magnetic body;

the case members including engagement means for retaining the case members in their closed position; and

a single leaf spring member acting between the bottom wall portion of one of the case members and the magnetic body in the interior space of the one case member and for (i) pressing the abutment surfaces of the magnetic body in the interior space of the one case member into contact with the abutment surfaces of the other magnetic body and (ii) pressing the other magnetic body into contact with the bottom wall portion of the other case member when the case members are closed and the magnetic bodies extend around an electric cable to form a magnetic circuit to absorb electric noise on an electric cable, said single leaf spring member being separate from the magnetic bodies and the case members and being the only spring member associated with said electric noise absorber, said single leaf spring member being located in the interior space of the one case member and having a first portion abutting against the bottom wall portion of the one case member and a second portion abutting against the magnetic body in the interior space of the one case member.

50. An electric noise absorber for attenuating electric noise on an electric cable, said noise absorber comprising:

two bodies of magnetic material, each magnetic body having abutment surfaces which contact the abutment surfaces of the other magnetic body to form a magnetic circuit, each of the magnetic bodies having a notch formed therein, at least one of the magnetic bodies having a rectangular contact side surface area, the rectangular contact side surface area of the one magnetic body having first and second end portions located adjacent to opposite ends of the one magnetic body and a central portion located between the opposite end portions;

two case members which are relatively movable between an open position and a closed position, each of the case members including a bottom wall portion and side wall portions extending

Appeal No. 1997-2426
Application 08/087,849

from the bottom wall portion to define an interior space of the case member;

each of the case members receiving a magnetic body, each of the case members including a positioner for extending into the notch of the respective magnetic body when the magnetic body is received in the case member, each of the magnetic bodies being prevented from moving out of the interior space of its respective case member when the positioner of the case member extends into the notch of the magnetic body, one of the case members having a rectangular inner side surface area which faces toward the other case member when the case members are in their closed position, the rectangular inner side surface area of the one of the case members being disposed on the bottom wall portion of the one of the case members;

the case members including engagement means for retaining the case members in their closed position; and

a single leaf spring member acting between the bottom wall portion of one of the case members and the magnetic body in the interior space of the one case member and for (i) pressing the abutment surfaces of the magnetic body in the interior space of the one case member into contact with the abutment surfaces of the other magnetic body and (ii) pressing the other magnetic body into contact with the bottom wall portion of the other case member when the case members are closed and the magnetic bodies extend around an electric cable to form a magnetic circuit to absorb electric noise on an electric cable, said single leaf spring member being separate from the magnetic bodies and the case members and being the only spring member associated with said electric noise absorber, said single leaf spring member being located in the interior space of the one case member and having a central portion abutting against the bottom wall portion of the one case member and first and second end portions abutting against the magnetic body in the interior space of the one case member, said single leaf spring member having a rectangular configuration with the central portion disposed between the first and second end portions of said spring member, said single leaf spring member having a bowed configuration, the first end portion of said single leaf spring member being disposed in abutting engagement with the first end portion of the rectangular contact side surface area of the one magnetic body and being spaced from the rectangular inner side surface area of the one of the case members when the case members are in their open position, the second end portion of said single leaf spring member being disposed in abutting engagement with the second end portion of the rectangular contact side surface area of the one magnetic body and being spaced from the rectangular inner side surface area of the one of the case members when the case members are in their open position, the central portion of said single leaf spring member being disposed in abutting engagement with the rectangular inner side surface area of the one of the case members and being spaced from the rectangular contact side surface area of the one magnetic body when the case members are in their open position, said single leaf spring member pressing the notch on the one magnetic body against the positioner when the

case member are in their open position, said single leaf spring member pressing the abutment surfaces on the one magnetic member against the abutment surfaces on the other magnetic member when the case members are in their closed position, the one magnetic member being moved relative to the one case member against the influence of said single leaf spring member during movement of the case members toward their closed position, the first and second end portions of said single leaf spring member being moved toward the rectangular inner side surface area of the one case member during movement of the case members toward their closed position, the central portion of the rectangular contact side surface area of the one magnetic body being moved toward the central portion of said single leaf spring member during movement of the case members toward their closed position.

The Examiner relies on the following references:

Hill	2,976,502	Mar. 21, 1961
Dowdle et al. (Dowdle)	3,110,874	Nov. 12, 1963
Heilmann et al. (Heilmann)	4,005,380	Jan. 25, 1977
Nelson et al. (Nelson)	4,408,175	Oct. 4, 1983
Nakano	4,885,559	Dec. 5, 1989
Miwa (Japanese Patent)	54-114716	Sept. 7, 1979
Boyajian (Great Britain)	363,606	Dec. 24, 1931

Claims 38, 39, 44, 45 and 50 stand rejected under 35 U.S.C. § 103 as being unpatentable over Nakano in view of Heilmann and Dowdle. Claims 40, 41, 46 and 47 stand rejected under 35 U.S.C. § 103 as being unpatentable over Nakano in view of Heilmann, Dowdle, and Nelson. Claims 42, 43, 48, and 49 stand rejected under 35 U.S.C. § 103 as being unpatentable over Nakano, Heilmann, Dowdle, Boyajian, Hill, and Miwa.

Rather than reiterate the arguments of the Appellants and the Examiner, reference is made to the briefs² and answer³ for respective details thereof.

OPINION

We will not sustain the rejection of claims 38 through 50 under 35 U.S.C. § 103.

The Examiner has failed to set forth a *prima facie* case of obviousness. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the express teachings or suggestions found in the prior art, or by the implications contained in such teachings or suggestions. *In re Sernaker*, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). “Additionally, when determining obviousness, the claimed invention should be considered as a whole; there is no legally recognizable ‘heart’ of the invention.” *Para-Ordnance Mfg. v. SGS Importers Int’l, Inc.*, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995), *cert. denied*, 519 U.S. 822 (1996) *citing* *W. L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), *cert. denied*, 469 U. S. 851 (1984).

In regard to the rejection of claims 38, 39, 44, 45 and 50 which were rejected under

² Appellants filed an appeal brief on March 30, 1995. We will refer to this appeal brief as simply the brief. Appellants filed a response addressing asserted deficiencies and new points of argument on March 25, 1997. We will refer to this response as the reply brief.

³ The Examiner responded to the brief with an Examiner’s answer, dated December 26, 1996. We will refer to the Examiner’s answer as simply the answer. The Examiner responded to the reply brief with a letter dated April 4, 1997 stating that the reply brief had been entered and considered but that no further response by the Examiner was deemed necessary

35 U.S.C. § 103 as being unpatentable over Nakano, Heilmann, and Dowdle, the Appellants argue on pages 10 and 11 of the brief that there is no proper motivation to combine the teachings of Dowdle with the teachings of Nakano and Heilmann. We note that the Appellants state that “spring types may not merely be interchanged without regard to their environment and without regard to the stated problem that each solves.” The Appellants point out that the Heilmann helical-type compression springs 24 and 25 do not unduly interfere with the loose mounting fit of the synthetic resin holders 20 and 21 and the half cores 18 and 19. The Appellants additionally note that the two leaf springs 14 and 15 in the Dowdle device are used to permit the sliding of the core assembly 11, from above, into channel 13 of the frame 10. The Appellants conclude that it is impermissible to pick and choose various elements and or concepts from several prior art references without regard to the environment of the elements and without an express or implied suggestion in the prior art.

The Examiner argues on pages 3 and 4 of the answer that Nakano has basically all the structure claimed with the exception of the leaf spring. Nakano has a notch and positioners 10, 11, 15 and 16; and biasing member 6 or 7 in each case members 2 and 3 holding ferrite member 5. The Examiner relies on Heilmann to teach separate biasing coil springs 24 and 25 to press the

ferrite cores 18 and 19 together. The Examiner further asserts that since Dowdle has biasing leaf springs 14 and 15 it would have been obvious for the coil spring of Heilmann to be in the form of a leaf spring.

The Examiner asserts on page 4 of the answer that with regard to the combination of teachings of Dowdle with the teachings of Nakano and Heilmann that “[t]he use of a specific type of spring over the coil spring of Heilmann et al. is considered a matter of design choice.”

Upon review of Nakano, we find that it discloses an electrical noise absorber comprising case members 2 and 3, which contain ferrite members 5. The ferrite members are acted upon by biasing members 6 and 7 as shown in col. 2, lines 9 through 16.

Heilmann discloses in col. 2, lines 38 through 54 that helical compression springs 24 and 25 act upon ferrite core halves 18 and 19 so that “these can readily accommodate themselves to each other when the clip is closed.” The ferrite core halves 18 and 19 are retained by the jaw shells 10 and 11.

Our review further notes that Heilmann states in col. 2 lines 53 to 63 that “[T]he force of the helical compression springs 24 and 25 is less than that of the tension spring 12. When the front end 15 of the jaw shells 10 and 11 close, the facing surfaces of the ferrite core halves 18 and 19 are placed one against the other, and the ferrite core halves 18 and 19 are pressed back with their plastic holders 20 and 21 into the jaw shells 10 and 11 respectively against the force of the

compression springs 24 and 25. Since . . . the full force of the tension spring 12 does not operate directly against the two ferrite core halves, the latter are not exposed to risk of breakage.” Thus, Heilmann supports the Appellants’ position that spring types may not be interchanged without regard to the environment and without regard to the stated problem that each solves.

We note that Dowdle discloses a magnetic core structure whose core 11 consists of a stack of a plurality of laminations shown in detail by 12 in figure 5, col. 2, lines 10 through 13. In order to compress the laminations forming the core 11 within the channel 13, resilient members 14 and 15 are provided to interact with the inner walls of channel 13 and the core 11. The resilient members 14 and 15 are generally of leaf spring construction as outlined in col. 2, lines 15 through 21.

The Dowdle reference states in col. 2, lines 20 to 38 that the leaf springs 14 and 15 primarily function to compress the core laminations. Dowdle further states that the leaf springs serve to take up variations in lamination thickness. The Dowdle magnetic structure is concerned with sufficient spring force to replace a rivet or bolt as noted in col. 1, lines 12 to 18. The force applied by a bolt or rivet is substantial compared to that of the Heilmann compression springs 24 and 25 which are selected with a concern for alignment *without* ferrite core halve breakage.

As a result of these findings, we fail to find the proper motivation to combine the teachings of Heilmann and Dowdle to modify Nakano. We fail to find evidence to support the modification. Heilmann and Dowdle do not support the conclusion that the modification is a matter of design choice. We are not inclined to dispense with proof by evidence when the proposition at issue is not supported by a teaching in a prior art reference or shown to be common knowledge of unquestionable demonstration. Our reviewing court requires this evidence in order to establish a *prima facie* case. *In re Piasecki*, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1983); *In re Knapp-Monarch Co.*, 296 F.2d 230, 232, 132 USPQ 6, 8 (CCPA 1961); *In re Cofer*, 354 F.2d 664, 668, 148 USPQ 268, 271-72 (CCPA 1966). Our reviewing court states in *In re Piasecki*, 745 F.2d at 1472, 223 USPQ at 788 the following:

The Supreme Court in *Graham v. John Deere Co.*, 383 U. S. 1 (1966), focused on the procedural and evidentiary processes in reaching a conclusion under section 103. As adapted to ex parte procedure, *Graham* is interpreted as continuing to place the “burden of proof on the Patent Office which requires it to produce the factual basis for its rejection of an application under section 102 and 103.” Citing *In re Warner*, 379 F. 2d 1011, 1020, 154 USPQ 173, 177 (CCPA 1967).

Therefore, we fail to find any suggested desirability of modifying Nakano with Heilmann, Dowdle, and Nelson to obtain the leaf spring member as recited in the Appellants' claims 38 through 41, 44 through 47 and 50.

The Federal Circuit states that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." *In re Fitch*, 972 F. 2d 1260, 1266 n. 14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992) *citing In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Upon our review of Nakano, Heilmann and Dowdle references, we fail to find that the prior art would have suggested the modification proposed by the Examiner.

In regard to the rejection of claims 42, 43, 48 and 49 as being unpatentable under 35 U.S.C. § 103 over Nakano in view of Heilmann and Dowdle and further in view of Boyajian, Hill, and Miwa, we fail to find that Boyajian, Hill and Miwa provide the missing teaching or suggestion to modify the Nakano biasing members 6 and 7 with a leaf spring.

Since there is no evidence in the record that the prior art would have suggested the desirability of such a modification, we will not sustain the Examiner's obviousness rejection of claims 42, 43, 48 and 49.

Appeal No. 1997-2426
Application 08/087,849

We have not sustained the rejection of claims 38 through 50 under 35 U.S.C. § 103.

Accordingly, the Examiner's decision is reversed.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
JERRY SMITH)	
Administrative Patent Judge)	APPEALS AND
)	
)	INTERFERENCES
)	
MICHAEL R. FLEMING)	
Administrative Patent Judge)	

MRF/dal

Appeal No. 1997-2426
Application 08/087,849

THOMAS L. TAROLLI
1111 LEADER BUILDING
CLEVELAND, OH 44114